

REMARKS

Claims 1-24 have been rejected under 35 U.S.C. § 112 as being indefinite. Claims 1 and 11 were deemed indefinite as the factors of time and temperature upon which the Brabender reading depends were not identified. The starting temperature and ramping temperature/time have been added to claims 1 and 11 (see the specification at page 13, para [0057] for descriptive basis). The Brabender reading is at the peak viscosity so a time and temperature for the peak cannot be provided. However, one skilled in the art not only understands that the Brabender viscosity was measured at its peak from the specification, but the specification also explains what is meant by this term at para [0032].

Claim 10 was deemed indefinite as it is unclear as to how a starch product has a gel strength. Claim 10 specifically states “the sago starch and the cornstarch are evaluated for gel strength at a 6% solids content” which would be understood by the skilled artisan to mean the gel strength of a starch dispersion in water.

Claims 1, 2, 8, 9, and 10 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Hanchett, et al (US 2002/0102344) and claims 11-13, 15, 23 and 24 have been rejected under 35 U.S.C. § 103 as being unpatentable over Hanchett, et al (US 2002/0102344). Hanchett discloses a converted sago starch as stated by the examiner. Such converted starch may be any modified starch, including crosslinked or thermally inhibited starches. However, the inhibition is to the base starch, not to the converted starch as in the present invention. The order of the modification is important. Further, the Hanchett patent discloses converted starches which may be unmodified or, if modified, may be modified by any modification known in the art, including crosslinked starches, acetylated and organically esterified starches, hydroxyethylated and hydroxypropylated starches, phosphorylated and inorganically esterified starches, cationic, anionic, nonionic, and zwitterionic starches, and succinate and substituted succinate derivatives of starch, and physically modified starches, such as thermally-inhibited starches. Further, the starch of the prior invention is to be converted to a water fluidity of 40-80, while the starch of the present invention is converted to a different degree. Thus, one skilled in the art would not only have to try a large multitude of combinations disclosed to arrive at the present invention, but would further need to modify the amount of conversion outside of the disclosed range and change the order of processing steps.

Hanchett does not teach or disclose a peak viscosity of 400 to 1000 BU as the brabender curves shown are during cooling (see for example, Fig 4 of Hanchett), which cannot be compared with the presently claimed viscosities during heating. Further, Hanchett does not teach or disclose a BVD measured between about 80° and about 90°C, of from about -35 BVD to about 25 BVD. BVD is calculated from the viscosity before cooling, not during a cooling cycle as shown in Figure 4.

The difference between the present invention and that of the prior art are reflected in the gelation of the starch. This is shown in Example IX of the present application. Please note that US 6,447,615 is the parent case of Hanchett. The starches of the present invention gel significantly faster, forms stronger gels with less starch and exhibit less syneresis compared to the starches of Hanchett. Thus, it is clear that the starches of the present invention are superior over Hanchett and therefore not only are different from, but are also not obvious in view of, Hanchett.

Regarding claim 24, it should be noted that hydrogen peroxide in the present application is used to convert starch, not to bleach it. The same may be said of Hanchett (see para [0017]). Typically, different amounts, concentrations and/or grades of hydrogen peroxide would be used for converting than for bleaching.

The Examiner makes a number of statements regarding the rejections in light of Hanchett which Applicant does not believe are necessary to address at this time; however, such is not to be regarded as agreement with any such statement(s).

Claims 3-7 and 16-22 have been rejected under 35 U.S.C. § 103 as being unpatentable over Hanchett, et al (US 2002/0102344) in view of Fennema ed. (Food Chemistry, 3rd Edition). As evidenced above, Hanchett does not teach or suggest the presently claimed starch. The Examiner uses Fennema for its teaching that modified food starches may be crosslinked with POCl₃, that the crosslinking agent is applied in an amount depending on the desired starch dispersibility and tolerance to physical conditions, and that it may be applied in an amount of from 0.0025% to 0.08%. However, Fennema does not cure the deficiencies of Hanchett. All it does is add, to an already deficient reference, more possibilities for the skilled artisan to try. Now, in addition to the order of steps, whether or not to modify, and the type of modification, Fennema adds the choosing which crosslinking agent to use and the amount. Thus, the rejection over Hanchett in view of Fennema is overcome.

Claim 14 has been rejected under 35 U.S.C. § 103 as being unpatentable over Hanchett, et al (US 2002/0102344) in view of Saowakon, et al. (JSci. Tech. 24(3), July 2002 (2002-2007), pp. 431-438). As evidenced above, Hanchett does not teach or suggest the presently claimed starch. The Examiner uses Saowakon to teach that the average size of native granular sago is 25 microns. The Examiner then states that because "Hanchett teaches of granular sago starch, but does not teach of the size of the granular sago starch, one would have been motivated to look to the art, such as Saowakon, to determine the size of the granular starch as taught by Hanchett." Applicants disagree. The present invention teaches pregelatinized, not granular starches. Thus, the size of granular sago starch is irrelevant to claim 14.

Even if the size of granular sago starch were relevant, Saowakon does not cure the deficiencies of Hanchett and thus the present invention is patentable over the combination of these references.

Applicant submits the Application is now in condition for allowance and respectfully requests early notice to that effect.

Respectfully submitted,

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